COVID-19 and fiscal policy in the euro area

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COVID-19 and Fiscal Policy in the Euro Area

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Abstract In this chapter we document fiscal policy developments in the main euro area economies over the last two decades and highlight the dramatic changes triggered by the COVID-19 pandemic. We analyse how euro area yield curves respond to COVID-19 related expectations of fiscal expansion. We show how fiscal constraints may affect interest rates. Upward pressure on national yields from higher debt levels could compromise fiscal and financial stability in the long-term.

Keywords Fiscal Policy. Debt. COVID-19. Interest Rates. Sovereign Yields.

Summary 1 Introduction. – 2 Fiscal Policy in the Euro Area. – 3 Interest Rate Dynamics Before and During the COVID-19 Crisis. – 4 Conclusion.

1 Introduction

The coronavirus pandemic has completely reshaped the current macroeconomic conditions and the economic outlook. According to the European Commission, euro area GDP is expected to shrink, on average, by 7.7% in 2020. This contraction is far deeper than what was experienced during the Great Financial Crisis of 2008-09. Furthermore, the average contraction rate masks

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marked cross-country heterogeneity, with countries hardest hit by the recession, such as Italy, Spain and France, facing a projected decrease in output of 9.2%, 9.4% and 8.4%, respectively.[1] Euro area countries have tackled the crisis with an unprecedented fiscal response. This will increase government budget deficits by several percentage points and will heavily affect the Debt-to-GDP ratios over the medium term.[2]

In this chapter, we show that this fiscal expansion comes at a time when governments face substantially different financial constraints across the euro area. Germany, which was the most fiscally conservative country leading up to the crisis, has plenty of financial resources to respond to the economic downturn. Instead, other countries, such as Italy and Spain, did not manage to reduce their outstanding debt in the last decade, which limits their ability to respond to the crisis.[3] We also analyse several euro area yield curves during the pandemic and explain how they may be linked, at least in part, to expectations of increased budget deficits.

The effects of fiscal policy on the macroeconomy and on interest rates have been widely studied in the past.[4] One of the main economic channels linking government bond supply and interest rates is duration risk, as described in Vayanos and Vila (2009). A number of

This paper should not be reported as representing the views of the European Central Bank. The views expressed are those of the Authors and do not necessarily reflect those of the ECB.

1 Data from European Commission's spring 2020 forecast can be found at `https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2020-economic-forecast-deep-and-uneven-recession-uncertain-recovery_it`.

2 Examples of newspaper on expected fiscal expansions are: "Germany Tears Up Fiscal Rule Book to Counter Coronavirus Pandemic". *Financial Times*, 21 March 2020; "Italy Boosts Aid Package as Europe Battles Coronavirus Outbreak". *Financial Times*, 10 March 2020; "France to Extend Crisis Jobs Scheme for Up to Two Years". *Financial Times*, 8 June 2020.

3 This was also reported in the international press. For example: "Spain's Tight Budget Puts Squeeze on Coronavirus Response". *Financial Times*, 24 June 2020.

4 For example, Corsetti et al. (2013) find that strained public finances might affect macroeconomic stability by a sovereign-risk channel, which raises funding costs in the private sector. Bonam and Lukkezen (2019) show that, when government debt is risky, increased deficits raise interest rates and crowd out consumption. Blanchard (2019) argues that in the US, as long as interest rates are below growth rates, debt rollovers may have no fiscal cost. Hatchondo, Roch and Martinez (2012) study how economies pay a significant default premium in absence of fiscal rules. Laubach (2009) estimates how debt and deficits affect long-term forward rates in the US. Ghosh et al. (2013) estimate for several countries a debt limit, which serves as an upper threshold for government debt that would cause a sovereign default if surpassed. Other relevant work on fiscal policy and interest rates is for example: Reinhart, Sack, Heaton 2000; Cimadomo, Claeys, Poplawski-Ribeiro 2016; Arellano et al. 2013; Bi 2012; Jaramillo, Weber 2013; Kumar, Baldacci 2010; Falagiarda, Gregori 2015.

empirical papers has found a positive relationship between different measures of bond supply and sovereign yields.[5] Other related empirical work has estimated the impact of asset-purchase programmes (Quantitative Easing) in US and in Europe, which lowered interest rates by effectively decreasing bond supply in the market through bond purchases.[6]

The chapter is structured as follows: section 2 discusses fiscal policy developments in the euro area. Section 3 illustrates yield curve movements before and during the pandemic period and describes the relationship between sovereign yields and fiscal policy. Section 4 concludes.

2 Fiscal Policy in the Euro Area

The fiscal position of the main euro area (EA) countries has been quite heterogenous in the last fifteen years. In figure 1, we show how budget deficits and Debt-to-GDP have evolved for Italy, Spain, France and Germany **[fig. 1]**. All countries responded to the Great Financial Crisis with a fiscal expansion, which deteriorated budget deficits and increased Debt-to-GDP ratios between 2008 and 2011. The situation stabilised in the last few years, with Italy, Spain and France running very similar budget deficits – below 3% – from 2016 onwards. The most fiscally conservative country was Germany, which ran a budget surplus from 2013 to 2019. This surplus contributed to a significant reduction of German Debt-to GDP which shrank by 20 percentage points in the last decade. France and Spain currently display very similar levels of outstanding debt, while Italy is by far the country showing the worst Debt-to-GDP ratio which reached about 140% in Q4 2019.

With such a high Debt-to-GDP ratio, Italy may soon show signs of ”fiscal fatigue” (Ghosh et al. 2013). Specifically, government debt can be ultimately repaid in two ways: either with a nominal GDP growth rate higher than nominal sovereign yields (i.e. a positive GDP growth-interest rate differential) or by running primary surpluses that will compensate the interest payments on debt. However, high levels of debt would need a substantial primary surplus in order to cope with mounting interest payments and reduce the outstanding amount of

5 See, for example, Greenwood, Vayanos 2014; Billio et al. 2020; Krishnamurthy, Vissing-Jorgensen 2012; Greenwood, Hanson, Vayanos 2015.

6 Some of the papers tackling this effect are for example: D’Amico, King 2013; Gagnon et al. 2011; Krishnamurthy, Vissing-Jorgensen 2011; Altavilla, Carboni, Motto 2015; Blattner, Joyce 2016; De Santis, Holm-Hadulla 2017; Li, Wei 2013; Joslin, Priebsch, Singleton 2014; Eser et al. 2019; Lemke, Werner 2020.

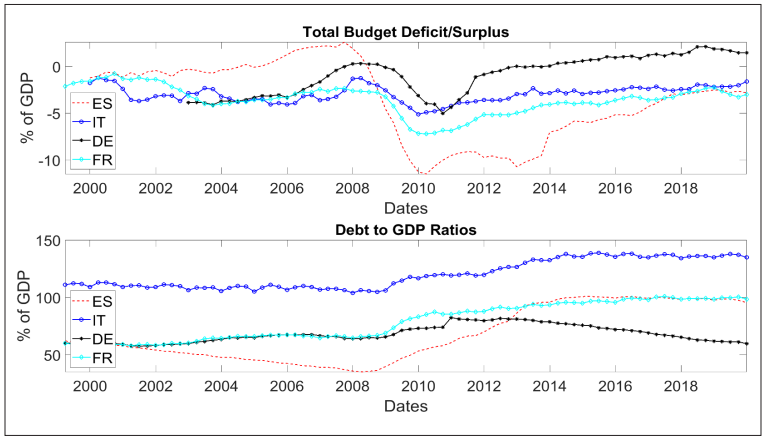

Figure 1 Time series of budget deficit and Debt-to-GDP ratios for the four main EA economies. The upper panel shows the time-series of budget deficit/surplus for Spain (ES), Italy (IT), France (FR) and Germany (DE) from January 2006 to December 2019. The bottom panel shows Debt-to-GDP ratios. Source: ECB

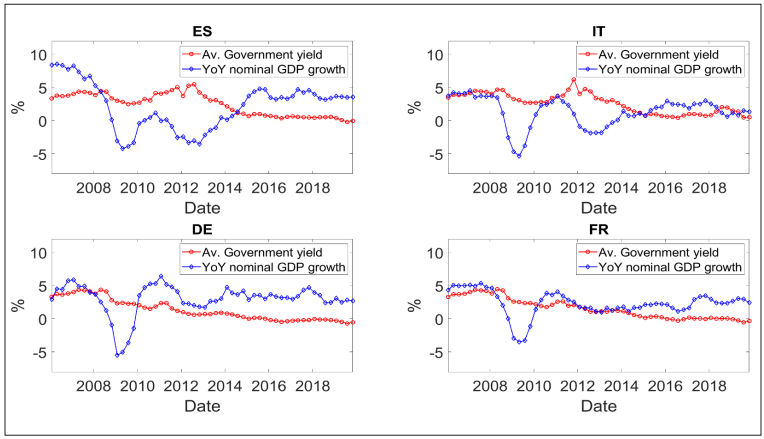

Figure 2 Interest rates and nominal GDP growth rates for Spain, Italy, Germany and France. The figure shows average nominal interest rates and year-on-year nominal GDP growth rates for the largest euro area economies, Spain (ES), Italy (IT), Germany (DE), France (FR). The average interest rates are calculated as the mean of 1,5, and 10 year zero-coupon bonds. Source: ECB

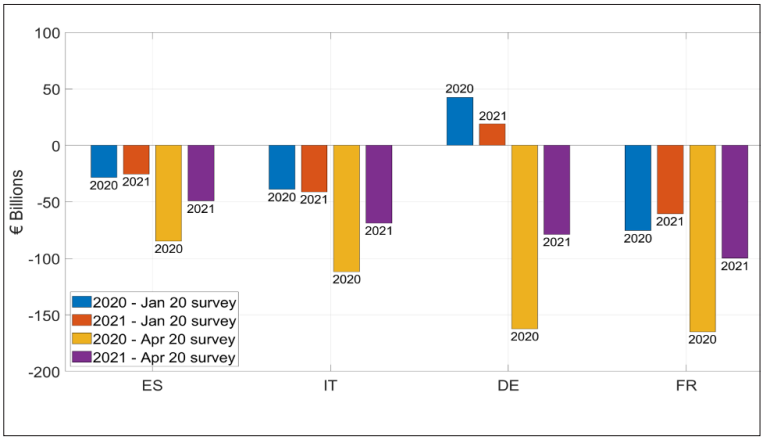

Figure 3 Budget deficit forecasts for 2020 and 2021 surveyed before and during the COVID-19 Pandemic. This figure shows budget deficit survey forecasts for 2020 and 2021 obtained in January 2020 and in April 2020. Source: Consensus Economics

debt.[7] Fiscal fatigue materialises whenever a government's ability of increasing the primary balance cannot keep up with the rising debt. The current low level of interest rates may attenuate this problem if it persists in the future and is not reversed by a surge in sovereign risk.

In figure 2 we show the relationship between interest rates and GDP growth for the four countries **[fig. 2]**. Countries that show a positive GDP-interest rate differential over time would stabilise debt even by not running budget surpluses, as the nominal growth rate of the economy would be higher than the nominal borrowing rates to finance that growth. In the figure, all countries had a negative differential during the financial crisis, while it became positive in the subsequent period. However, Italy and Spain had the worst differential across the entire sample. The Italian differential was positive only for a few years around 2016 and, compounded with the high level of debt, suggests a problematic fiscal position for the country.

Entering into 2020, Germany had clearly the highest fiscal flexibility and financial resources to face a macroeconomic downturn, in contrast with all the other countries that would have struggled to find resources in case of a deep recession. Then, in response to the COVID-19 pandemic, euro area countries planned a substantial fiscal expansion in 2020 and 2021 to counter the economic damage stemming from nationwide shutdowns. Market expectations of budg-

7 The Government could increase the surplus by raising taxes or by cutting non-interest expenditures.

et deficits have deteriorated consistently since the start of the crisis. In figure 3 we show how survey forecasts for government budgets changed from January to April 2020 **[fig. 3]**. Germany is the country in which the forecast for current and next year budget deficit changed the most in absolute terms. Indeed, the country's budget forecast changed from an expected surplus to a sizable deficit both in 2020 and in 2021. Moreover, all countries' forecasts worsened, as all euro area economies planned a substantial increase in government spending to boost their economies. These forecasts signal that investors expect sizable budget deficits going forward, which will substantially increase future Debt-to-GDP ratios.

In figure 4 we also show the time-series of the cross-sectional volatility of budget deficit survey forecasts **[fig. 4]**. This variable could be interpreted as a measure of uncertainty regarding the overall size of current and future fiscal policy interventions. The spike in the last data point (April 2020) is unprecedented and is bigger in magnitude than spikes recorded during both the Great Financial Crisis and sovereign debt crisis. Thus, this figure really shows how uncertain market participants were about the magnitude of the fiscal policy response by euro area countries to the pandemic. Indeed, neither the size of such programmes nor to what extent this fiscal expansion would have been covered by European schemes, such as the European Stability Mechanism or the Recovery Fund, were clear. This expected fiscal stimulus will then have to be financed by higher issuance of sovereign debt, which could put upward pressure on sovereign yields, as investors might request a higher premium to absorb this higher supply of bonds. Quite likely, the impact on sovereign yields will vary across countries, with larger yield increases in countries with higher outstanding debt and sovereign credit risk.

3 Interest Rate Dynamics Before and During the COVID-19 Crisis

Sovereign bond market yields reflect current and expected macroeconomic conditions. Euro area interest rates have shown signs of stress during the pandemic period. Between February and May 2020, as shown in figure 5, the euro area GDP-weighted yield curve has detached itself from the Bund and Overnight Index Swap (OIS) curves, which are often used as euro area reference curves **[fig. 5]**. The OIS is a benchmark risk-free rate and the Bund is the German government bond curve. The bottom-left side of the figure shows average yield curves in the months preceding the COVID-19 pandemic, when the three curves were in a tighter range. The crisis caused a relatively small shift in the level of the euro area curve across all maturities. In order to put things into perspective, we compare the current

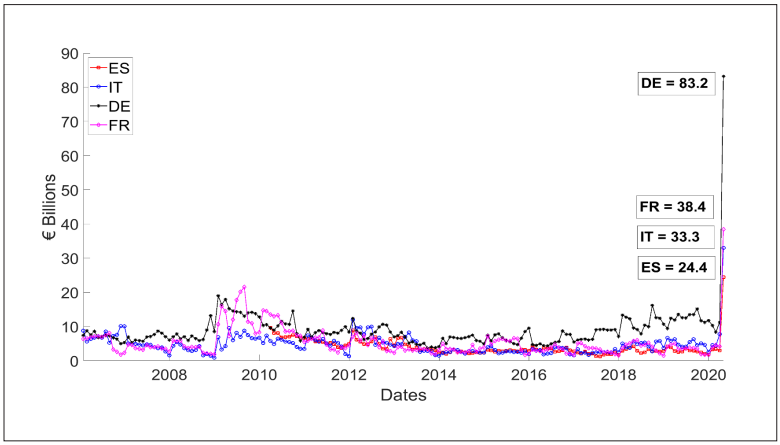

Figure 4 Standard deviation of budget deficit forecasts. This figure shows cross-sectional dispersions of budget deficit survey forecasts for annual budget surplus/deficit from 2007 to 2020. The forecasts are for the same year overall budget balance. Source: Consensus Economics

bond market dynamics with the market dynamics before and during the Sovereign Debt Crisis, as shown in the graphs at the top of figure 5. The three curves were priced almost equally in the period preceding the Sovereign Crisis. However, during the worst part of the downturn, when investors were unsure about the solvency of some peripheral countries, a shift in the level of the euro area curve suggests a complete repricing across all maturities of the yield curve.

Even though the size of yield movements has been smaller during the COVID-19 pandemic than during the Sovereign Crisis, the transmission mechanism of these higher perceived risks has had a similar impact on the level and shape of the euro area curve. In figure 6, we show the time-series of these three curves at the 10-year maturity **[fig. 6]**. During the past 15 years, the 10-year euro area yield has been very close to the Bund and OIS 10-year rates during tranquil times (before the financial crisis and after the end of the Sovereign Crisis), while it detached in times of market stress. The bottom panel of the figure shows interest rate movements for the same 10-year yields in the period surrounding the Pandemic. The spread between the euro area yield and the Bund/OIS rate increased abruptly between the end of February and mid-March, when it was unclear what kind of monetary policy support the European Central Bank would provide. Then, on March 18, 2020 the ECB announced the Pandemic Emergency Purchase Program (PEPP). The PEPP was announced as an asset purchase program worth €750 billion, to be initially undertaken by the ECB until the end of 2020. After the announcement, yield spreads retraced back from their previous maximum.

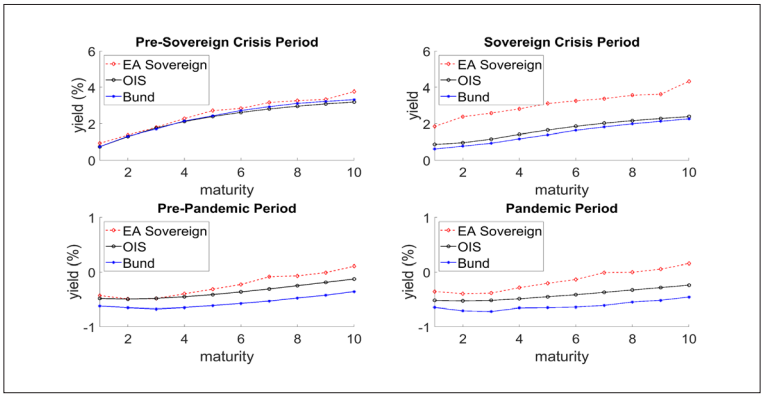

Figure 5 Average OIS, Bund and EA yields before and during the Sovereign Crisis and the COVID-19 Pandemic. This figure shows average OIS, Bund and Euro Area yield curves before and during the COVID-19 Pandemic and the Sovereign Crisis. The Pre-crisis periods are June 2010-December 2010 for the Sovereign Crisis and September 2019-January 2020 for COVID-19. The crisis periods are June 2011-December 2011 for the Sovereign Crisis and February 2020-April 2020 for the COVID-19 Pandemic. The Euro Area yield curve is calculated by a GDP-weighted average of national sovereign yields. Source: Refinitiv, ECB

However, the spread between the euro area 10-year yield and the Bund/OIS yields remained wider than before the crisis. Estimating the upward pressure of a fiscal expansion on interest rates during the COVID-19 crisis is not an easy task. Euro area interest rates have probably been driven by several different factors during this period. Further, the PEPP announcement and implementation contributed to a significant reduction of euro area yields. We tackle this issue by employing a simple linear model, and by comparing the estimated yield impact of a fiscal expansion with yield spreads movements during the period preceding the PEPP announcement. Specifically, we focus on the period between the start of February and March 18th. This is when macroeconomic and fiscal policies had their full impact on yields, which was softened afterwards by the ECB's monetary policy intervention. We calculate the potential impact of a fiscal expansion as follows. First, we run a linear regression model to study the relationship between 10-year country-level yield spreads over the OIS rate and expected budget deficits relative to GDP. The sample period ends in December 2019, so as to exclude any data points from the current crisis. Second, we use the estimated coefficients from the model and multiply them by the expected fiscal expansion due to the COVID-19 crisis. This is calculated as the difference between the budget deficit forecasts taken in April 2020 and the same forecasts obtained in January 2020. Figure 7 reports the results of this exercise in basis points **[fig. 7]**. The estimated impact greatly varies across countries. We estimate that Italy and Spain would have had

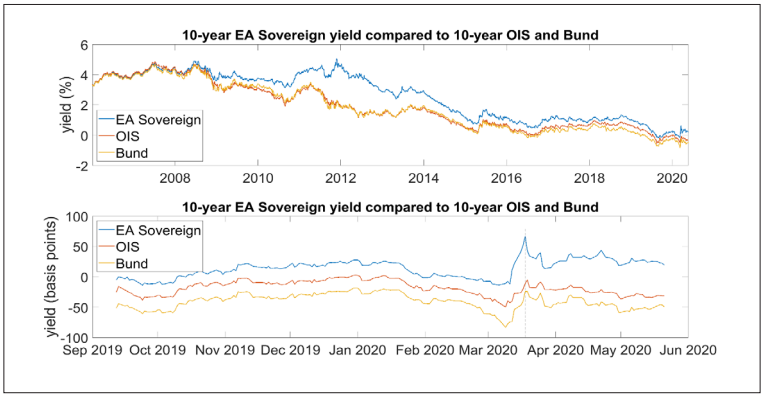

Figure 6 Time series of the OIS, Bund and euro area average 10 year yields. The upper panel of this figure shows time-series of OIS, Bund and euro area yields from January 2006 to May 2020. The bottom panel shows the same time-series from November 2019 to May 2020. The vertical dashed line in the bottom panel indicates the date the ECB announced the Pandemic Emergency Purchase Program (PEPP). The euro area 10-year yield is calculated by a GDP-weighted average of national sovereign yields. Source: Refinitiv, ECB

the most sizable yield increases, with 160 and 90 basis points, respectively. Germany and France show a much smaller impact instead, with magnitudes of around 40 basis points for both. The main takeaway from the exercise is that the estimated yield change would be non-negligible especially for peripheral countries.

How does this empirical evidence square with actual yields observed in the market? As mentioned before, we want to focus on the period preceding the PEPP announcement to reduce the confounding effect of the ECB's monetary policy on yields. We can use this pre-announcement period as a benchmark for yield changes that would happen, at least partially, without a clear monetary policy support. Figure 8 shows 10-year country-level yield spreads over the OIS from February to May 2020 **[fig. 8]**. Countries with the highest estimated impact from our model also had the greatest yield movements in this period. Examining the period from the beginning of February to the 18th of March, yield spreads increased by about 125 basis points for Italy, 75 basis points for Spain, 30 basis points for France and remained unchanged for Germany. Except for Germany, the magnitudes are not so far off from our estimated impacts.

Indeed, German Bunds were largely unaffected by the crisis, with yields remaining stable during this period. So, the expected large fiscal expansion in Germany did not have any effect on German yields, which is at odds with what observed in other countries. However, in our model we do not control other factors that might have driven yields during the pandemic, such as flight-to-safety effects. Spe-

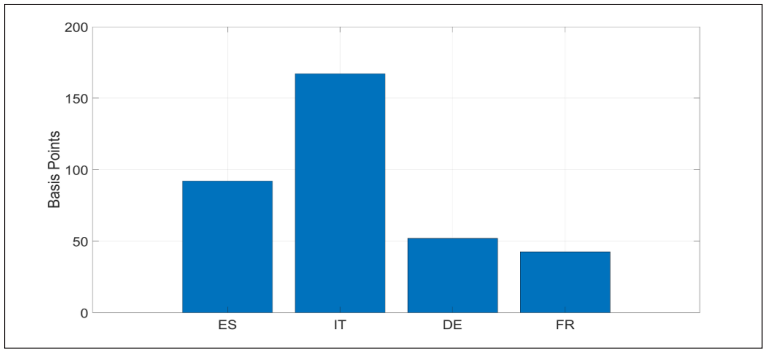

Figure 7 Estimated impact of budget deficit shocks during the pandemic on yield spreads. This figure shows the estimated impact in basis points on euro area yield spreads of a shock on expected country-level budget deficits. The magnitudes are obtained as follows: 10-year country-level yield spreads over OIS are linearly projected onto expected budget deficit forecasts. Regression residuals are assumed to follow an AR(1) process. Further, the coefficients obtained by the regression are multiplied by a fiscal shock, which is calculated by looking at the difference between budget deficit forecasts obtained in December 2019 (pre-pandemic) and in April 2020 (pandemic period). Source: ECB, Consensus Economics, Author's calculations

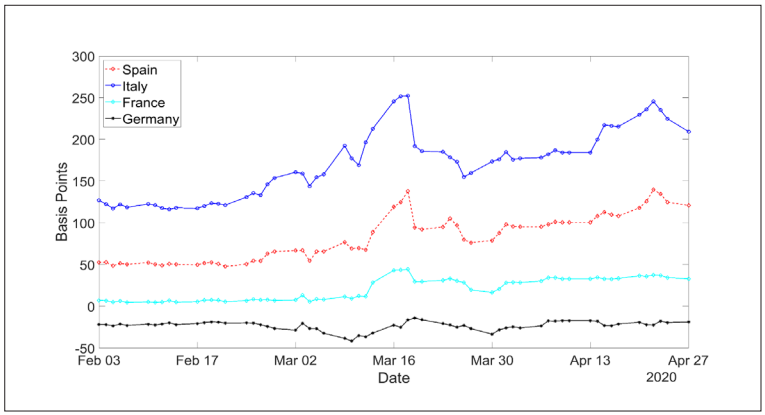

Figure 8 Country-level spreads over OIS between February and April 2020. This figure shows time-series of 10-year country-level yield over the 10-year OIS rate. Source: Refinitiv, ECB

cifically, the German Bund is widely considered a safe-haven asset. As a result its yield could experience downward pressure in times of high risk aversion. Thus, it is possible that the expected bond supply expansion by the German government was compensated by a higher demand for Bunds during the pandemic.

4 Conclusion

In this chapter, we describe the fiscal adjustments made by the main Euro area countries following the onset of the COVID-19 pandemic. Such countries planned a robust expansionary fiscal response after nationwide shutdowns caused a massive economic downturn. We consider the effect of deteriorating expectations of budget deficits on government bond yields during the pandemic period. From a policy-making perspective, it is important to assess how fiscal constraints during expansionary fiscal interventions might affect interest rates, as upward pressure on national yields from higher debt might compromise fiscal and financial stability in the long-term.

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